REMARKS

The Examiner is thanked for the careful examination of the application. However, in view of the foregoing amendments and the following remarks, the Examiner is respectfully requested to reconsider and withdraw the outstanding rejections.

The present application includes four rejections based on 35 U.S.C. §103(a). Each of the rejections relies on a "first reference" to teach the basic vacuum vessel with a partitioning section. For the four rejections, the "first reference" is *Xu, Ko, Tanaka,* and *Yuda*, respectively. Applicant reserves the right to predate one or more of the four references at a later time, if necessary and appropriate.

For each of the four rejections, the Examiner has added the teachings of *Kasai* and *Van Os*. The Examiner relies upon *Kasai* for a teaching that showerheads can be heated. In response filed on January 3, 2005, Applicant challenged the combination of *Kasai* with the "first reference" for the reasons set forth in detail in the remarks filed on January 3, 2005. Applicant continues to assert this position, and the appropriate remarks from the response filed on January 3, 2005 are incorporated herein by reference.

The Examiner also relies upon *Van Os* for an alleged teaching of an "electrically conductive" spiral shield, illustrated in Figure 4, but not identified with reference numerals. The Examiner alleges that the spiral shield of *Van Os* corresponds to the electrically conductive spiral shield of the claimed invention.

In response to the rejections, independent claims 1 and 3 have been amended to clarify that the partitioning section is mounted such that an outer perimeter of the partitioning section does not directly contact the vacuum vessel, and

the electrically conductive spiral shield is arranged such that electrical contact between the partitioning section and the vacuum vessel is achieved through said spiral shield. Support for the amendments may be found at least in Figures 1 and 3a and generally throughout the specification.

One of the benefits of the present invention is that the separation of the vacuum vessel and the outer perimeter of the partitioning plate enables the two components to operate at different temperatures, and enables relative thermal expansion of the two components. In so doing, any differences in thermal expansion and contraction can be accommodated by the space about the outer perimeter of the partitioning section, while enabling the electrically conductive spiral shield to *still maintain a good electrical connection between them.* Because the spiral shield is a spiral, it is flexible, and enables some relative movement between the vacuum vessel and the partitioning plate, including any relative movement that might be caused by differences in temperature.

In the prior art reference to *Van Os*, the plates 40, 70 are firmly mated to each other, and can thus, not easily accommodate differences in expansion and contraction. Note that *Van Os* emphasizes at column 11, lines 23 – 31, that the plenum body 40 is connected to the nozzle section 70 through *mating surfaces* 80, 81, and that the mating surfaces 80, 81 are preferably plated with a suitable material such as nickel "to enhance the metal *surface to surface contact* between the plenum body 40 and the nozzle section 70." *Van Os* also states that "[t]he interfacing surfaces of the metal are designed to promote low impedance contact..."

Thus, *Van Os* clearly establishes the electrical connection between the plenum body 40 and the nozzle section 70 by the plating on the surfaces 80, 81, not

through the spiral shield. Also, *Van Os* does not teach or suggest that the outer perimeter of the partitioning plate does not contact the vacuum vessel. In *Van Os*, the nozzle section 70 is firmly mounted to the plenum body 40.

Furthermore, there is no support at all in *Van Os* for the Examiner's conclusion that the spiral shield in *Van Os* is "electrically conductive".

As set forth now in both of the independent claims, the spiral shield is *electrically conductive* and the partitioning section is mounted such that its outer perimeter does not contact the vacuum vessel. Furthermore, it is also now claimed that the electrically conductive spiral shield is arranged such that electrical contact between the partitioning section and the vacuum vessel is achieved through said spiral shield.

Clearly, there is no teaching in *Van Os* that the outer perimeter of the partitioning section does not directly contact the vacuum vessel, and the electrically conductive spiral shield is arranged such that electrical contact between the partitioning section and the vacuum vessel is achieved through said spiral shield. Accordingly, the claimed invention of claims 1 and 3 include a unique combination of elements that has, among other elements, an electrically conductive spiral shield which helps maintain a good electrical contact between the partitioning section and the vacuum vessel, in spite of large temperature swings in the apparatus.

In view of the foregoing amendments and remarks, the Examiner is respectfully encouraged to reconsider and withdraw the outstanding rejection of claims 1 and 3 - 6 based on 35 U.S.C. §103(a).

The application also includes rejections based on the judicially created doctrine of obviousness type double patenting. Such rejections also rely upon *Van*

Os in the same manner as the rejections based on 35 U.S.C. §103(a). Accordingly, Applicant submits that the double patenting rejections are also overcome by the foregoing amendments and remarks.

In view of the foregoing amendments and remarks, the Examiner is respectfully requested to reconsider and withdraw the outstanding rejections.

In the event that there are any questions concerning this response, or the application is general, the Examiner respectfully urged to telephone the undersigned attorney so that prosecution of the application may be expedited.

Respectfully submitted,

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